Abstract

A high performance network address processor is provided comprising a longest prefix match lookup engine for receiving a request for data from a designated network destination address. An associated data engine is also provided to couple to the longest prefix match lookup engine for receiving a longest prefix match lookup engine output address from the longest prefix match lookup engine and providing a network address processor data output corresponding to the designated network destination address requested. The high performance network address processor longest prefix match lookup engine comprises a plurality of pipelined lookup tables. Each table provides an index to a given row within the next higher stage lookup table, wherein the last stage, or the last table, in the set of tables comprises an associated data pointer provided as input to the associated data engine. The associated data engine also comprising one or more tables, the associated data engine generating a designated data output associated with the designated network address provided to the high performance NAP.

Rev. 6/8/00